

REMARKS

Introduction:

Applicants note with appreciation the Examiner's indication that each of the references cited in the Information Disclosure Statement of March 22, 2006, has been considered.

Upon entry of the foregoing amendment, claims 1-8 are pending in the instant application, with claims 5-8 being added. No new matter is presented. In view of the following remarks, allowance of all pending claims is requested.

1. Objection to the Abstract:

On page 2 of the Office Action mailed on August 01, 2008 ("Office Action"), the Examiner objects to the Abstract of the invention. Applicants respectfully submit that, as amended above, the Abstract meets all the requirements under MPEP 608.01(b).

2. Objection to the Drawings:

On pages 2-3 of the Office Action, the Examiner objects to FIG. 4. The Examiner states that the shading of this figure did not scan well. In response, better quality formal drawings are provided in the attached Replacement Sheets, wherein FIGS. 1-5 more clearly illustrate the features of the drawings. Applicants respectfully submit that FIGS. 1-5 satisfy the requirements of 37 C.F.R. 1.83(a).

3. Rejection under 35 U.S.C. § 102(b): Pigeon:

Claims 1-4 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,061,968 to Pigeon ("Pigeon"). Applicants respectfully traverse this rejection for at least the following reasons:

Pigeon describes a method of eddy current testing involving the suppression of undesirable parameters from the measurement signal by compensating for the effects of such undesirable parameters at different frequencies. See Pigeon, Abstract. That is, Pigeon describes a method in which curves obtained at different frequencies are combined such that "the contribution of the undesirable parameter is compensated for by the contribution of the same parameter at a different frequency." See Pigeon, Col 2., lines 10-15 (emphasis added). As illustrated in FIGS. 5-6 of

Pigeon, this method allows for the elimination of a parameter using two discrete frequencies or of two parameters using three discrete frequencies.

Pigeon does not describe varying either the amplitude or frequency within the measurement signal as claimed. Instead, Pigeon combines a first measurement signal at a first uniform frequency with measurements obtained by a second measurement signal at a second uniform frequency. For example, as illustrated in FIG. 2 and Col. 4, lines 10-20, Pigeon combines measurements made at 20 kHz, 100 kHz, and 240 kHz. That is, each of the measurement signals used in Pigeon is at a uniform and unvarying signal frequency.

In contrast, the present application is directed at using superwaves instead of conventional square or sinusoidal waveforms. That is, the frequency of the measurement signal is not uniform at a single frequency, but comprises a train of pulsed electrical packets and a cluster of pulses being superimposed on each packet to create superlooping or waves-within-waves.

Accordingly, Pigeon does not disclose, among other things, "a train of pulsed electrical packets, a cluster of pulses being superimposed on each packet," "wherein each pulse in the cluster of pulses has an amplitude that is proportional to an instantaneous amplitude of a major wave associated with the train of pulsed electrical packets, and wherein each pulse in the cluster of pulses has a frequency that is proportional to an instantaneous frequency of the major wave associated with the train of pulsed electrical packets," as recited in independent claim 1 or as similarly recited in claims 2-4.

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." Verdegaal Bros. v. Union Oil Co. of California, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). The identical invention must be shown in as complete detail as contained in the...claim." Richardson v. Suzuki Motor Co., 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). "The elements must be arranged as required by the claim..." In re Bond, 910 F.2d 831, 15 USPQ2d 1566 (Fed. Cir. 1990).

Accordingly, since Pigeon does not teach all of the elements set forth in independent claims 1-4, these claims are patentably distinguishable over Pigeon, and withdrawal of this rejection and allowance of these claims are respectfully solicited.

4. New Claims:

New claims 5-8 have been added. Support from new claims 5-8 can be found in the specification and drawings, and in the references incorporated by reference. For example, support for new claims 5-8 can be found in FIG. 3 and in paragraphs [0024-0026, and 0030] of the specification. Additionally, support for claims 5-8 can also be found in FIGS. 1-2 and pages 266, 269 of the article titled "The Great Law of the Universe" incorporated by reference into the present application at paragraph [0021]. New independent claim 5 recites features, which are not disclosed, taught, or suggested in the prior art of record, for example, "an induction probe to receive a superlooped waveform measurement signal." New claims 6-8 depend from independent claim 5 and further define characteristics recited therein, which are also not disclosed, taught, or suggested in the prior art of record.

Accordingly, it is respectfully submitted that new claims 5-8 do not present new matter and are allowable over the prior art of record, and allowance of these claims is earnestly solicited.

Conclusion:

Having fully responded to all objections and rejections set forth in the outstanding Office Action, Applicants respectfully submit that the application is in condition for allowance and Notice to this effect is requested. Additional characteristics or arguments may exist that distinguish the claims over the prior art cited by the Examiner, and Applicants respectfully preserve their right to present these in the future, should they be necessary.

If the Examiner believes that a brief telephone or personal communication will facilitate prosecution of this application, the Examiner is invited to contact the Applicants' undersigned representative.

Authorization:

The Commissioner is authorized to charge any fees associated with this filing, including any fees due for an extension of time, and to credit any overpayment, to Deposit Account No. **50-0653**. If an extension of time is required, please consider this a petition therefor.

Respectfully submitted,

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